-continued

```
Ala Lys Gly Arg Phe Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Thr
65                  70                  75                  80

Leu Gln Met Thr Ser Leu Thr Val Ala Asp Thr Ala Thr Tyr Phe Cys
                85                  90                  95

Ala Arg Gly Gly Gly Val Pro Gly Asp Gly Tyr Ala Leu Trp Gly Pro
            100                 105                 110

Gly Thr Leu Val Thr Val Ser Ser
        115                 120


<210> SEQ ID NO 42
<211> LENGTH: 112
<212> TYPE: PRT
<213> ORGANISM: Artificial Sequence
<220> FEATURE:
<223> OTHER INFORMATION: Synthetic Peptide

<400> SEQUENCE: 42

Gly Thr Glu Leu Val Met Thr Gln Thr Pro Ala Ser Val Ser Glu Pro
1               5                   10                  15

Val Gly Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Glu Asp Ile Ser
            20                  25                  30

Ser Asn Leu Val Trp Tyr Gln Gln Lys Ser Gly Gln Pro Pro Lys Leu
        35                  40                  45

Leu Ile Tyr Asp Ala Ser Met Leu Ala Ser Gly Val Pro Ser Arg Phe
    50                  55                  60

Lys Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Asp Leu
65                  70                  75                  80

Glu Cys Ala Asp Gly Ala Thr Tyr Tyr Cys Gln Ser Tyr Tyr Val Ala
                85                  90                  95

Ser Ser Ser Tyr Phe Val Asn Gly Phe Gly Gly Gly Thr Glu Val Val
            100                 105                 110
```

What is claimed is:

1. A method of treating an individual with cancer with a therapeutic anti-leukemia inhibitory factor (LIF) antibody comprising determining a level of LIF that exceeds a reference level in a biological sample from the individual, and administering a therapeutic amount of the anti-LIF antibody to the individual when the level of LIF is greater than the reference level of LIF.

2. The method of claim **1**, wherein the therapeutic anti-LIF antibody comprises:

a) an immunoglobulin heavy chain complementarity determining region 1 (VH-CDR1) comprising the amino acid sequence set forth in any one of SEQ ID NOs: 1-3;

b) an immunoglobulin heavy chain complementarity determining region 2 (VH-CDR2) comprising the amino acid sequence set forth in any one of SEQ ID NOs: 4 or 5;

c) an immunoglobulin heavy chain complementarity determining region 3 (VH-CDR3) comprising the amino acid sequence set forth in any one of SEQ ID NOs: 6-8;

d) an immunoglobulin light chain complementarity determining region 1 (VL-CDR1) comprising the amino acid sequence set forth in any one of SEQ ID NOs: 9 or 10;

e) an immunoglobulin light chain complementarity determining region 2 (VL-CDR2) comprising the amino acid sequence set forth in any one of SEQ ID NOs: 11 or 12; and

f) an immunoglobulin light chain complementarity determining region 3 (VL-CDR3) comprising the amino acid sequence set forth in SEQ ID NO: 13.

3. The method of claim **2**, wherein the therapeutic anti-LIF antibody comprises an immunoglobulin heavy chain variable region comprising at least 85%, 90%, 95%, 97%, 98%, 99%, or 100% identity to SEQ ID NOs: 14, 15, 17, or 38 and an immunoglobulin light chain variable region comprising at least 85%, 90%, 95%, 97%, 98%, 99%, or 100% identity to SEQ ID NO: 18-21.

4. The method of claim **3**, wherein the therapeutic anti-LIF antibody comprises an immunoglobulin heavy chain region comprising at least 85%, 90%, 95%, 97%, 98%, 99%, or 100% identity to SEQ ID NOs: 30-33 or 39, and an immunoglobulin light chain region comprising at least 85%, 90%, 95%, 97%, 98%, 99%, or 100% identity to SEQ ID NOs: 34-37.

5. The method of any one of claims **1** to **4**, wherein the therapeutic anti-LIF antibody is an IgG antibody comprising two immunoglobulin heavy chains and two immunoglobulin light chains.